DOCUMENT RESUME

ED 212 068 EA 014 342

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TITLE A Study of Two Types of Scheduling Arrangements for Grade 9 Students in Central High School of Commerce, 1980-1981. Research Service #160.
INSTITUTION Toronto Board of Education (Ontario). Research Dept.
REPORT NO ISBN-0-88881-162-4
PUB DATE Sep 81
NOTE 46p.

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Achievement; *Attendance Patterns; Foreign Countries; Grade 9; Questionnaires; School Attitudes; *School Schedules; School Surveys; Secondary Education; *Student Attitudes
IDENTIFIERS *Central High School of Commerce ON; Ontario (Toronto)

ABSTRACT

Using school records and attitudinal surveys, researchers evaluated two daily scheduling arrangements among ninth grade students taking level 4 and 5 courses at Central High School of Commerce in Toronto (Ontario). Some students were on group or block timetables, moving through each day's schedule in groups, while most students were on individualized schedules. Questionnaire surveys of 277 students in the fall and of 219 students the following spring ascertained their attitudes toward the school, teachers, achievement, and education in general. Both in the fall and the spring the questionnaire data revealed little difference in overall attitudes between the students following the two timetables. School records showed that attendance patterns under both timetables were similar. Data on classroom marks indicated little difference between the groups in overall grades or mathematics grades, but did show that students taking level 5 English courses on group timetables got higher grades than those on individualized timetables. No such difference existed among level 4 English students. An informal poll of teachers at a preliminary presentation of the evaluation results revealed no clear preference for either timetable. A copy of the survey questionnaire is attached. (Author/RW)

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RESEARCH SERVICE

issued by the
Research Department

EA 014 342

THE BOARD OF EDUCATION FOR THE CITY OF TORONTO

ISSN 0316-8786
ISBN 0-88881-162-4

A STUDY OF TWO TYPES OF SCHEDULING ARRANGEMENTS FOR GRADE 9 STUDENTS IN CENTRAL HIGH SCHOOL OF COMMERCE 1980-1981

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#160

September, 1981

ACKNOWLEDGEMENTS

The authors would like to thank:

--the Grade 9 students who participated in the attitude surveys;

--the teachers whose classes were involved in the study;

--Peter Griffin, Roy Harvey, Don Creighton, John Romeiko and Tom McCusker who helped with the organization of the study;

--Jack Gilchrist and Malcolm Lennox of Computer Services who helped manage and analyze the data on marks and attendance;

--Lily Malobabic and Holly McGill who typed the report.

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INTRODUCTION

This study was developed following a request from the principal of Central High School of Commerce. The staff wanted to find out whether one type of scheduling arrangement benefits grade 9 students more than another. One arrangement was the presently used individualized timetable and the other arrangement was the group timetable (common timetable or block timetable) which allows the students to stay together as a class unit each period as they move from subject to subject, similar to the scheduling of classes, not students, some years ago.

Some staff felt that the individualized timetable resulted in a loss of homeroom identity intensifying feelings of bewilderment and alienation during the adjustment of the new grade 9 students. This, they felt, might have a negative effect on the students' attitudes toward school, attendance patterns and school performance. Consequently, alternative arrangements were made during the academic year of 1980-81 to provide three classes of grade 9 students with common timetables. The intent was to help the students settle in more quickly and thereby increase their chance of success in school.

Purpose of the Study

The purpose of the study was to determine whether or not the school attitudes, attendance patterns and academic performance of Grade 9 students in both levels 4 and 5 were differently

affected by the two types of timetabling arrangement.

More specifically, the following questions were addressed:

(1) Do students staying together as class units all day have more favourable attitudes toward school than students on individual timetables?; at the beginning of the school year?; at the end of the school year? Is the change of attitudes, if any, during the academic year the same in magnitude and direction for students on both types of timetables? Do timetabling arrangements have the same effect on the attitudes of both levels 4 and 5 students?

(2) Do students staying together as class units all day have fewer absences than students on individualized timetables? Do the timetabling arrangements have the same effect on the attendance patterns for both the level 4 and level 5 students?

(3) Do students staying together as class units all day have higher term marks than students on individual timetables? Do the timetabling arrangements have the same effect on the school marks of both the level 4 and 5 students?

PROCEDURES

Measures

School attitudes were assessed by an 89-item attitude questionnaire consisting of five subscales, namely: attitude toward school, attitude toward teachers, education acceptance, achievement motivation and attitude toward Central Commerce. The first two subscales were developed by Traub, Weiss, Fisher, Musella and Khan (1973) and were slightly modified for this study, the third scale was developed by Zarb (1980) using ideas presented by Mitchell (1961), and the fourth was derived by Brown and Holtzman (1967) and also used by Zarb (1980). The last subscale was put together by the investigators and Central Commerce staff especially for this study. A five-point scale offering the possible response of "strongly disagree," "disagree", "neutral", "agree", and "strongly agree" was used throughout the questionnaire.

The attitude questionnaire was administered to the grade 9 students twice: first in late October, 1980 and then in mid May, 1981. Both versions contain the 89 items. However, the May questionnaire was expanded to include 3 additional closed-ended and one open-ended question to elicit specific responses about the two types of timetables (see Appendix A).

Attendance was measured using the number of school days present as reported through the Attendance System.

Academic achievement was measured using English marks, mathemtics marks and the average marks for all subjects which had numerical grades. Scores from standardized reading and

mathematics tests given by the school in June, 1980 and September, 1980 respectively , were available for use as premeasures before examining grade 9 English and math marks.

The Sample

The 332 grade 9 students who participated in the October attitude survey constituted the number of students available for the study. However, only four subsets of students were used for the detailed analysis; appropriate comparison students would not be found for the remainder. The four subgroups studying were:

(1) one class of students taking level 5 courses who remained together all day,

(2) two classes of students taking level 4 courses who remained together all day,

(3) students who were on individual timetables taking mostly level 5 courses, and

(4) students who were on individual timetables taking mostly level 4 courses.

The students not included in the detailed analyses were:

(1) students classified as ESL (English as a Second Language),

(2) students grouped for remedial English and remedial math, and

(3) a few students for whom information on level of courses being taken was unavailable or who were not identified as taking mostly level 4 or 5 courses.

RESULTS

Attitudes

Of the 332 students who participated in the October attitude survey, only 277 met the criteria for inclusion in the detailed analysis of the attitude data. The May survey provided data for only 219 students because some of them no longer attended the school, some were absent when the second survey was administered and a few answered less than 10 items. Table 1 shows the number of students in the two surveys by level and timetable.

TABLE 1

NUMBER OF LEVEL 4 AND 5 STUDENTS IN THE FALL AND SPRING ATTITUDE SURVEYS BY TYPE OF TIMETABLE

Level *	October, 1980			May, 1981		
	Individual Timetable	Group Timetable	Total	Individual Timetable	Group Timetable	Total
Level 4	109	40	149	85	25	110
Level 5	106	22	128	91	18	109
TOTAL	215	62	277	176	43	219

* Information on the level at which students were taking most of their courses was obtained from The Grade Nine Student Survey: Fall 1980 (Wright & Dhanota, 1981).

Fall Data

A comparison of the subgroups by level and type of timetable is presented in Table 2. For ease of comparison, all the scores were converted to the same scale as used for the individual items with 3 being neutral, 5 strongly positive and 1 strongly negative. The data were examined statistically to see if there were any significant differences among the groups. It is obvious from glancing at the data and it was confirmed statistically that no initial differences existed in the attitudes of students participating in the two types of timetabling arrangements. This was true for both the level 4 and level 5 students.

Spring Data

The spring data show, with one exception, that there were no significant differences in attitudes between students with the two types of timetables; any variations in the fall scores were taken into statistical consideration. The only difference was in the scores of Level 4 students for the subscale "Attitude toward School" - those students who had individual timetables had, on the average, somewhat more favourable attitudes toward school than the students who had the group timetable and the difference was statistically significant (see Table 3).

The results of the three additional closed-ended items in the spring term are presented in Table 4. For the Level 5 students, there was a strong tendency for those having individual timetables to favour individual timetabling and those having group timetables to prefer group timetables. The differences exhibited by the two groups of Level 5 students are statistically significant.

TABLE 2

FALL TERM ATTITUDE SCORES OF STUDENTS IN INDIVIDUAL AND GROUP TIMETABLES

Subscales	Number of Items	Level 4 (Individual N=109) (Group N=40) Timetable	Mean	SD	t	Level 5 (Individual N=106) (Group N=22) Timetable	Mean	SD	t
(1) Attitude toward School	20	Individual	3.36	0.49	-0.03	Individual	3.52	0.49	0.30
		Group	3.36	0.45		Group	3.49	0.52	
(2) Education Acceptance	25	Individual	3.22	0.42	0.34	Individual	3.40	0.43	-1.36
		Group	3.20	0.36		Group	3.54	0.49	
(3) Achievement Motivation	13	Individual	3.42	0.35	1.51	Individual	3.51	0.31	-1.74
		Group	3.32	0.34		Group	3.63	0.32	
(4) Attitude toward Teachers	21	Individual	3.09	0.40	1.81	Individual	3.17	0.47	-0.61
		Group	2.95	0.38		Group	3.24	0.40	
(5) Attitude toward Central Commerce	10	Individual	3.37	0.53	1.22	Individual	3.46	0.46	0.89
		Group	3.25	0.55		Group	3.36	0.59	
Overall	89*	Individual	3.29	0.33	1.25	Individual	3.41	0.36	-0.47
		Group	3.22	0.31		Group	3.45	0.40	

* Items 17 and 26 are common in subscales 1 and 2; therefore, the total number of items is equal to 89 in this table, whereas the attitude scale which was administered in the first term had 87 items.

TABLE 3

SPRING TERM ATTITUDE SCORES OF STUDENTS IN INDIVIDUAL AND GROUP TIMETABLES

Subscales	Level 4 (Individual N=85) (Group N=25) Timetable	Mean	Ms	F	Level 5 (Individual N=91) (Group N=18) Timetable	Mean	Ms	F
(1) Attitude toward School	Individual	3.22	1.479	6.369*	Individual	3.39	0.170	1.216
	Group	2.88			Group	3.27		
(2) Education Acceptance	Individual	3.12	0.024	0.189	Individual	3.24	0.117	1.079
	Group	3.01			Group	3.26		
(3) Achievement Motivation	Individual	3.35	0.083	0.552	Individual	3.42	0.001	0.920
	Group	3.18			Group	3.49		
(4) Attitude toward Teachers	Individual	2.86	0.028	0.225	Individual	3.03	0.005	0.044
	Group	2.71			Group	3.05		
(5) Attitude toward Central Commerce	Individual	3.11	0.022	0.076	Individual	3.32	0.022	0.100
	Group	3.06			Group	3.34		
Overall	Individual	3.11	0.083	0.933	Individual	3.26	0.047	0.673
	Group	2.94			Group	3.26		

NOTE: All analyses were done using the fall scores as covariates.

* Significant at $p \leq 0.05$

TABLE 4

MEANS AND T-TESTS ON ATTITUDE SCORES OF STUDENTS
ON SOME ADDITIONAL ITEMS BY TYPE OF TIMETABLE

Items*	Level 4 (Individual N=88) (Group N=29) Timetable	Mean	SD	t	Level 5 (Individual N=91) (Group N=19) Timetable	Mean	SD	t
Item 88	Individual	2.26	1.25	0.61	Individual	2.24	1.07	6.67**
	Group	2.41	1.15		Group	4.05	1.08	
Item 89	Individual	3.10	1.17	0.57	Individual	3.60	0.96	6.46**
	Group	3.24	1.12		Group	2.32	0.75	
Item 90	Individual	3.61	1.08	2.00**	Individual	3.48	0.92	4.74**
	Group	3.21	0.90		Group	2.53	0.77	

* These items were not included in the first administration of the attitude questionnaire. For item 88, a high score means a student favours "staying together". For item 89, a high score means a student favours "individual timetable". For item 90, a high score means a student favours different classmates for different subjects. (See Appendix A for wording of these items.)

** Differences between mean scores are statistically significant, $p < 0.05$

The pattern of responses for the Level 4 students was not as clear cut. There were no significant differences between the two timetabling groups except for item 90 and in all three questions both groups favored individual timetables: for item 90, those on a grouped timetable did not favour individual timetables as much as did those on individual timetables.

The additional open-ended question yielded similar responses: the level 5 students with each type of timetable preferred their own type of scheduling arrangement. The feature most frequently mentioned in favour of the group timetable is that students get to know each other better and therefore make more friends. Students who were positively disposed toward individual timetables mentioned getting to meet more people, increased interest and better learning.

Changes in Attitude Scores

The average attitudes of all the students taking part in the fall and spring surveys declined from 3.35 to 3.18. The shifts in the scores for each of the subscales and the overall scale are depicted in Figure 1.

A detailed examination of the student data grouped according to level and timetable indicates that the shift to less positive attitudes was found in both Levels 4 and 5 students, regardless of the type of timetable they had. The decline in overall scores was statistically significant for all the subgroups (see Tables 5 and 6).

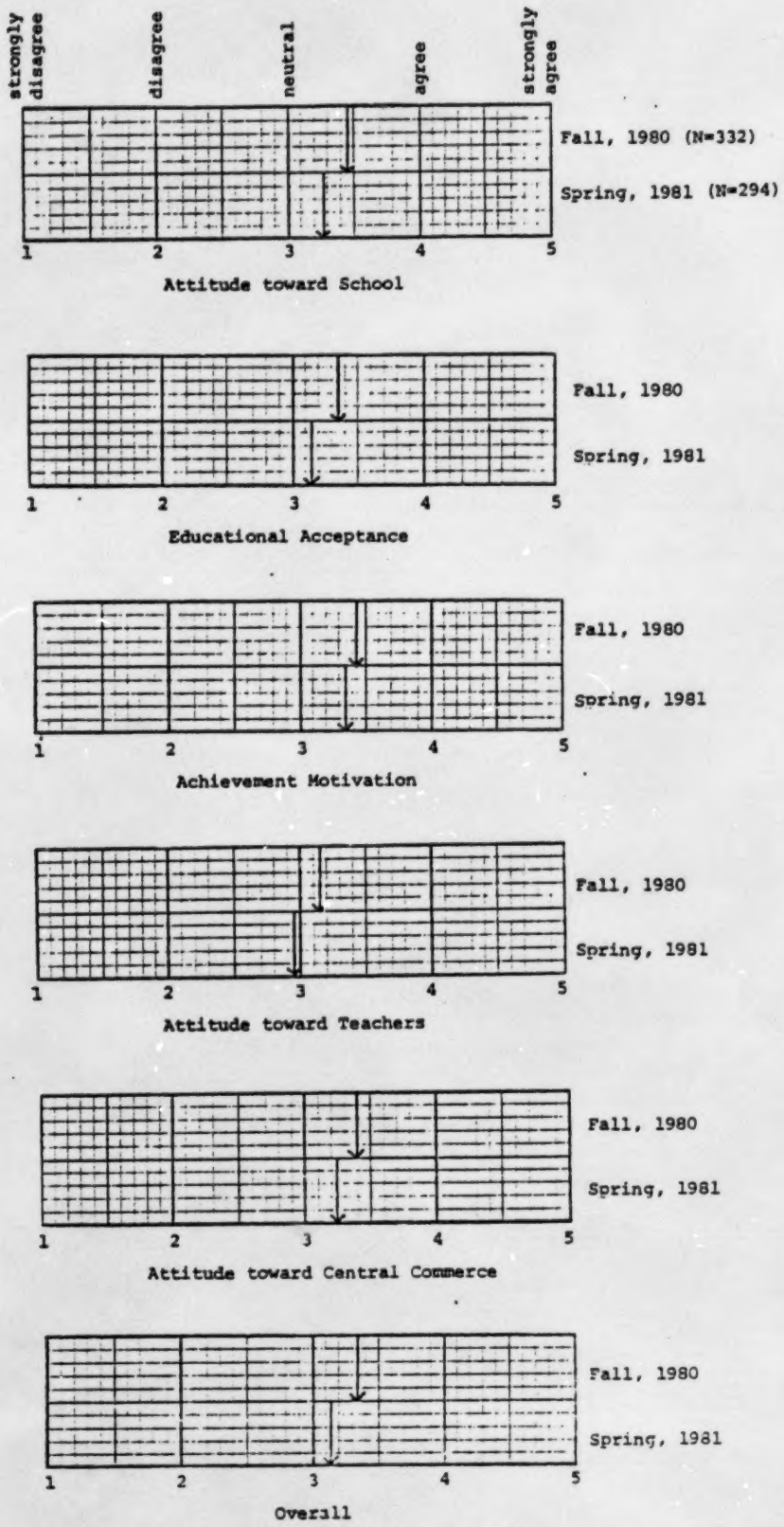

Figure 1: Average attitude scores of all students for different subscales and overall scale for the fall and spring surveys.

TABLE 5

FALL AND SPRING MEAN ATTITUDE SCORES
OF LEVEL 4 STUDENTS BY TYPE OF TIMETABLE

Subscales	Individual Timetable (N=85)				Group Timetable (N=25)			
	Time of Survey	Mean	SD	t*	Time of Survey	Mean	SD	t*
1	Fall	3.38	0.49	3.11**	Fall	3.30	0.50	3.89**
	Spring	3.22	0.59		Spring	2.88	0.64	
2	Fall	3.25	0.40	3.45**	Fall	3.16	0.33	2.00
	Spring	3.12	0.47		Spring	3.01	0.51	
3	Fall	3.42	0.34	1.74	Fall	3.25	0.36	0.84
	Spring	3.35	0.43		Spring	3.18	0.45	
4	Fall	3.10	0.40	6.14**	Fall	2.97	0.35	3.48**
	Spring	2.86	0.46		Spring	2.71	0.51	
5	Fall	3.40	0.53	5.25**	Fall	3.30	0.52	1.82
	Spring	3.11	0.68		Spring	3.06	0.70	
Overall++	Fall	3.29	0.33	5.62**	Fall	3.18	0.31	3.48**
	Spring	3.11	0.42		Spring	2.94	0.45	

* t-test for correlated means.

** Significant at $p \leq 0.05$.

\+ Due to rounding, the overall mean may be slightly different from the average mean of the subscales.

TABLE 6

FALL AND SPRING MEAN ATTITUDE SCORES
OF LEVEL 5 STUDENTS BY TYPE OF TIMETABLE

Subscales	Individual Timetable (N=91)				Group Timetable (N=18)			
	Time of Survey	Mean	SD	t*	Time of Survey	Mean	SD	t*
1	Fall	3.57	0.44	4.68**	Fall	3.56	0.43	2.85**
	Spring	3.39	0.48		Spring	3.27	0.68	
2	Fall	3.43	0.43	5.74**	Fall	3.58	0.46	2.95**
	Spring	3.24	0.42		Spring	3.26	0.58	
3	Fall	3.54	0.29	3.69**	Fall	3.66	0.34	2.56**
	Spring	3.42	0.30		Spring	3.49	0.39	
4	Fall	3.20	0.47	4.79**	Fall	3.26	0.42	2.01
	Spring	3.03	0.45		Spring	3.05	0.55	
5	Fall	3.49	0.47	3.36**	Fall	3.46	0.42	0.97
	Spring	3.32	0.55		Spring	3.34	0.69	
Overall++	Fall	3.43	0.36	6.45**	Fall	3.50	0.38	2.91**
	Spring	3.26	0.36		Spring	3.26	0.52	

* t-test for correlated means.

** Significant at $p \leq 0.05$.

\+ Due to rounding, the overall mean may be slightly different from the average mean of the subscales.

Attendance

The average cumulative attendance data as of June 30, 1981 were used in the analyses. Table 7 shows the average number of days present (out of a total of 195 school days) for the four subgroups of grade 9 students. The attendance pattern for students having individual timetables is very similar to that of students having group timetables. Such similarity is apparent among both the Level 4 and Level 5 students. In preliminary analyses the cummulative attendance to April 30, 1981 was examined. The patterns of attendance were the same as those reported for the full year.

School Marks

Tables 8 and 9 reveal that the effect of timetables on level 4 students is not the same as that on the Level 5 students.

For the Level 4 students, the type of timetable does not seem to be related to school performance as measured by the English marks, math marks and average marks for all subjects. This lack of meaningful relationship between timetable and school marks is consistent throughout the three school terms (see Table 8). Table 9 shows that this trend remains after controlling for any initial variation in the standardized English and math scores at the beginning of the school year; the only exception is found in the first term math results.

On the other hand, the type of timetabling arrangement for Level 5 students seemed to make a difference in their English marks. Level 5 students who are in group timetables tend to

TABLE 7

MEAN CUMULATIVE ATTENDANCE OF GRADE 9 STUDENTS
BY TYPE OF TIMETABLE AND LEVEL OF COURSES

Timetable	Level 4				Level 5			
	No. of Students	Av. No. of Days Present	SD	t	No. of Students	Av. No. of Days Present	SD	t
Individual	96	185.02	10.2	0.70	95	188.78	8.7	-.40
Group	32	183.48	12.1		19	189.66	8.6	

TABLE 8

SCHOOL MARKS OF STUDENTS BY LEVEL OF COURSES AND TYPE OF TIMETABLE

Term	Level 4					Level 5				
	Timetable	N	Mean	SD	t	Timetable	N	Mean	SD	t
1st Term										
**Average of all subjects	Individual	106	60.2	11.2	-0.27	Individual	106	68.4	11.0	-2.54*
	Group	40	60.7	11.5		Group	22	72.7	6.0	
English	Individual	101	56.1	14.4	-0.18	Individual	98	60.6	14.4	-5.76*
	Group	37	56.5	10.1		Group	22	70.9	4.9	
Math	Individual	106	59.3	15.5	1.00	Individual	106	67.2	16.5	-1.16
	Group	40	55.6	20.9		Group	22	70.4	10.5	
2nd Term										
**Average of all subjects	Individual	106	60.7	11.8	0.02	Individual	106	66.5	13.2	-1.53
	Group	40	60.7	13.1		Group	19	71.3	9.7	
English	Individual	99	52.6	15.4	-1.48	Individual	103	61.3	15.2	-6.28*
	Group	38	57.1	16.9		Group	18	74.2	5.9	
Math	Individual	106	60.1	16.5	-1.00	Individual	105	65.8	18.1	-1.64
	Group	40	63.2	17.4		Group	19	73.0	15.8	
3rd Term										
**Average of all subjects	Individual	105	60.4	11.7	0.71	Individual	106	66.7	12.5	-1.27
	Group	40	58.5	15.1		Group	19	70.5	10.4	
English	Individual	98	57.4	14.1	0.15	Individual	103	62.1	15.9	-5.02*
	Group	38	57.0	14.9		Group	19	72.0	5.3	
Math	Individual	105	55.9	17.0	0.25	Individual	105	61.3	21.1	-0.87
	Group	40	54.9	23.6		Group	19	65.8	18.5	

* The difference is statistically significant at .05 level.
**Subjects that were given letter grades were not included.

TABLE 9

ENGLISH AND MATH MARKS BY LEVEL OF COURSES AND TYPE OF TIMETABLE
USING THE STANDARDIZED ENGLISH AND MATH SCORES AS COVARIATES**

Term	Level 4					Level 5				
	Timetable	N	Mean	MS	F	Timetable	N	Mean	MS	F
1st Term										
English	Individual	78	57.37	0.002	0.00	Individual	86	61.57	1242.73	8.68*
	Group	33	56.82			Group	20	71.00		
Math	Individual	75	61.52	726.59	3.95*	Individual	79	69.43	5.50	0.04
	Group	34	59.18			Group	21	71.90		
2nd Term										
English	Individual	76	54.95	186.99	0.75	Individual	90	62.63	1581.57	9.14*
	Group	34	57.21			Group	17	74.41		
Math	Individual	75	62.82	40.07	0.25	Individual	79	67.84	107.47	0.44
	Group	34	66.71			Group	19	73.06		
3rd Term										
English	Individual	75	59.62	41.33	0.25	Individual	90	62.78	1069.28	5.19*
	Group	34	57.74			Group	18	72.22		
Math	Individual	75	57.34	162.70	0.62	Individual	79	63.68	19.47	0.06
	Group	34	58.23			Group	19	65.79		

* The difference is statistically significant at .05 level.

** The standardized scores can be treated as another type of control other than a premeasure for the English and mathematics marks. Since such scores are available only to those students that started in Central Commerce in September, students that entered late (who may be quite different from the general student population) are excluded from the covariant analysis.

achieve significantly higher English marks than their counterparts who are in individual timetables. This pattern is repeated for all three terms and remains after controlling for the initial differences in the standardized English scores. However, the type of schedule Level 5 students have does not seem to have any effect on their math mark or the average school mark, except for the first term average mark.

Teachers' Viewpoints

Preliminary results on the attitude and attendance patterns of students in the two types of timetabling arrangements were presented to the teachers in Central Commerce in mid-June, 1981.

At the end of the presentation, teachers who had had Grade 9 students were asked to discuss their experiences in teaching students on group timetables versus students on individual timetables and indicate their preferences. Their opinions regarding this issue were divided.

There were teachers who had taught group timetable classes and were pleased with such an arrangement. On the other hand, there were teachers who had had bad experiences with this type of class because of an unfortunate mix of students. For example, one teacher mentioned that four students from his group timetable class had to be transferred out during the year because they, collectively, had exerted a bad influence on the rest of the class. (Data was later reanalyzed for Level 4 students excluding these four students but it did not affect the statistical results.)

An informal opinion poll, asking for a show of hands, at the very end of the session, showed no majority support for either type of timetable.

Another piece of information obtained during the teachers' discussions was that all Grade 9 students had been timetabled together for the same lunch period during the year. This may have lessened the differences between the two types of timetables. Indeed the common lunch period which was relatively easy to arrange had already been built into the next year's schedule because it seemed like a good idea. (The grouped timetable was very hard to arrange and could only be done for some students.)

SUMMARY

This study has attempted to see how grade 9 students with individualized timetables compare with students with group timetables in terms of school attitudes, attendance patterns and academic achievement.

It was found that there was little difference between the two timetable groups in overall attitudes, both in the fall and spring terms. The attitudes of both groups had become less favorable toward school in the spring.

The June cumulative attendance for students who were on group timetables was similar to that of students on individual timetables.

Regarding the average school marks and mathematics marks, little difference existed between the two timetable groups. However, when the English marks were considered, students taking Level 5 courses in group timetabled classes consistently attained higher marks than their counterparts on individual timetables. Such differences in English marks were not found among Level 4 students.

When teachers were asked to express their opinions about the two types of timetables, there was not majority support for either. Their opinions seemed affected by whether they had had a "good" group or not.

Students were also given an opportunity to air their opinions about the two types of timetables. While Level 5 students with each type of timetable preferred the type of scheduling arrangement they had experienced, Level 4 students, in general, did not have a clear-cut response pattern.

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APPENDIX A

Student Questionnaire

CENTRAL HIGH SCHOOL of COMMERCE

GRADE 9 ATTITUDE and OPINION SURVEY

Spring, 1981

DIRECTIONS

. READ EACH STATEMENT CAREFULLY

. DECIDE WHETHER YOU:

1) STRONGLY DISAGREE

2) DISAGREE

3) ARE NEUTRAL

4) AGREE

5) STRONGLY AGREE WITH STATEMENT

. CIRCLE THE CORRECT NUMBER FOR YOUR ANSWER

. THERE ARE NO RIGHT OR WRONG ANSWERS, SO RESPOND TO EACH STATEMENT AS HONESTLY AS YOU CAN

. IT IS IMPORTANT THAT YOU ANSWER ALL QUESTIONS.

Spring, 1981

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
		1				6	
1.	I tend to think of excuses to avoid schoolwork.	1	2	3	4	5	(7)
2.	My dislike for certain teachers causes me to neglect my school work.	1	2	3	4	5	
3.	I am a hardworking person.	1	2	3	4	5	
4.	Only "teachers' pets" ask questions and take part in classroom discussions.	1	2	3	4	5	
5.	I am proud to go to Central Commerce.	1	2	3	4	5	
6.	I am really interested in my schoolwork.	1	2	3	4	5	
7.	I feel that I would study harder if I were given more freedom to choose subjects that I like.	1	2	3	4	5	
8.	I want to succeed more than the average person.	1	2	3	4	5	
9.	Teachers talk too much.	1	2	3	4	5	
10.	Central Commerce provides good out-of-school activities.	1	2	3	4	5	(16)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
11. I should <u>not</u> be required to attend school.	1	2	3	4	5
12. Even though I don't like a subject, I still work hard to make a good grade.	1	2	3	4	5
13. When I'm faced with difficult tasks, I generally "give up" too easily.	1	2	3	4	5
14. I like all my teachers.	1	2	3	4	5
15. The rules at Central Commerce are too strict.	1	2	3	4	5
16. Each morning I look forward to coming to school.	1	2	3	4	5
17. I lose interest in my studies after the first few days of school.	1	2	3	4	5
18. I enjoy studying.	1	2	3	4	5
19. I am afraid to ask the teacher when I do <u>not</u> understand a lesson.	1	2	3	4	5
20. Other people I know think highly of Central Commerce.	1	2	3	4	5
21. I like to attend events in school.	1	2	3	4	5
22. I think that it might be best for me to drop out of school and get a job.	1	2	3	4	5
23. I like to compete with other people.	1	2	3	4	5
24. Teachers use too many "big" words.	1	2	3	4	5
25. Central Commerce is like a big happy family.	1	2	3	4	5 (31)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
26. I feel like skipping school whenever there is something else I would rather do.	1	2	3	4	5
27. Students are <u>not</u> given enough freedom in selecting their own topics for essays and reports.	1	2	3	4	5
28. I put forth considerable effort to get good grades.	1	2	3	4	5
29. Teachers talk about important things most of the time.	1	2	3	4	5
30. The general atmosphere at Central Commerce makes me feel uptight.	1	2	3	4	5
31. I feel good when I am at school.	1	2	3	4	5
32. It is hard to do reading assignments because the work isn't interesting.	1	2	3	4	5
33. I am a person with alot of drive and energy.	1	2	3	4	5
34. Teachers are too strict in school.	1	2	3	4	5
35. If there were more schools like Central Commerce, kids would stay in school.	1	2	3	4	5
36. It is hard for me to be happy at school.	1	2	3	4	5
37. Unless I really like a subject, I will do only enough to get a passing grade.	1	2	3	4	5
38. I wish I were more successful as a student.	1	2	3	4	5
39. Teachers try to be fair with students.	1	2	3	4	5
40. I would like to transfer out of Central Commerce and go to another school.	1	2	3	4	5

40 (46)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
41. I am learning useful things in school.	1	2	3	4	5
42. I feel confused and undecided as to what to study in school and what to do after I graduate.	1	2	3	4	5
43. I try very hard to do well in anything I undertake.	1	2	3	4	5
44. Teachers give too many assignments.	1	2	3	4	5
45. Everyone at Central Commerce knows everyone else.	1	2	3	4	5
46. Some of my school work is so uninteresting that I have to make myself do the assignments.	1	2	3	4	5
47. I find that the standards I set for my own work are too high for me to reach.	1	2	3	4	5
48. Teachers know what students like to do.	1	2	3	4	5
49. Teachers at Central Commerce treat students like friends.	1	2	3	4	5
50. I wish there was regular school during the summer too.	1	2	3	4	5
51. I believe that having a good time and getting fun out of life is more important than studying.	1	2	3	4	5
52. I have a strong drive to succeed in my work.	1	2	3	4	5
53. Teachers enjoy giving students a "hard time."	1	2	3	4	5
54. I like to do schoolwork at home in the evenings.	1	2	3	4	5
55. I think teachers try to avoid discussing present-day problems and events with their classes.	1	2	3	4	5 (61)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
56. I feel under pressure to do well in my schoolwork.	1	2	3	4	5	
57. Teachers make sure I always understand what they want me to do.	1	2	3	4	5	
58. I think kids have it rough in school.	1	2	3	4	5	
59. I feel that my grades show what I can really do.	1	2	3	4	5	
60. My parents put considerable pressure on me to achieve good grades.	1	2	3	4	5	
61. Teachers make schoolwork interesting.	1	2	3	4	5	
62. Schoolwork is boring.	1	2	3	4	5	
63. I think college education is not worth the time, money, and effort.	1	2	3	4	5	
64. Teachers really explain things well.	1	2	3	4	5	
65. I am afraid of taking tests.	1	2	3	4	5	
66. Some of my classes are so boring that I spend the class period doing something else.	1	2	3	4	5	
67. Teachers take an interest in my ideas.	1	2	3	4	5	
68. I would like to quit school.	1	2	3	4	5	
69. I believe that playing on a winning sports team is just as important as doing well in my schoolwork.	1	2	3	4	5	
70. I cooperate with my teachers.	1	2	3	4	5	
71. My school is like a jail.	1	2	3	4	5	(77)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
72. I want to be a teacher.	1	2	3	4	5	2 (7)
73. I often get so angry at school that I feel like breaking the windows.	1	2	3	4	5	
74. I try to become really interested in every subject I take.	1	2	3	4	5	
75. People become teachers because they like kids.	1	2	3	4	5	
76. I feel terrible each morning when I think of going to school.	1	2	3	4	5	
77. I feel that the main reason for going to college is so others will admire and look up to you.	1	2	3	4	5	
78. Students copy because teachers give assignments that are too hard.	1	2	3	4	5	
79. It is fun to go to school.	1	2	3	4	5	
80. I feel that the subjects I am taking won't help me when I finish school.	1	2	3	4	5	
81. People become teachers because they are good at teaching.	1	2	3	4	5	
82. Students who memorize facts get higher grades than students who 'think'.	1	2	3	4	5	
83. My teachers are hard markers.	1	2	3	4	5	
84. I believe that the main job of the schools is to teach students things that will help them earn a living.	1	2	3	4	5	
85. Too much reading or studying gives me a headache.	1	2	3	4	5	
86. I believe that teachers really want their students to like them.	1	2	3	4	5	
87. I feel that the things taught in school do <u>not</u> help one to meet adult problems.	1	2	3	4	5	(22)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
88. In Grade 9 it is a good idea for the same students to stay together in every class.	1	2	3	4	5	
89. Students in Grade 9 should have individual timetables.	1	2	3	4	5	
90. You learn better if you have different students with you for the different subjects.	1	2	3	4	5	(25)

91. Please add any comments you have about the way that students are grouped together for their different classes in Grade 9.

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THANK YOU VERY MUCH FOR YOUR HELP.

APPENDIX B

Questionnaire Items for Individual Subscales

SUBSCALE	ITEM NUMBER ON "STUDENT ATTITUDE AND OPINION SURVEY"
A. Attitude Toward School	1,6,11,16,21,26,31,36,41,50,54, 58,62,65,68,71,73,76,79. (17)*
B. Education Acceptance	2,7,12,17,22,27,32,37,42,46,51, 55,59,63,66,69,74,77,80,82,84, 85,86,87. (26)*
C. Achievement Motivation	3,8,13,18,23,28,33,38,43,47,52, 56,60.
D. Attitude toward Teachers	4,9,14,19,24,29,34,39,44,48,53, 57,61,64,67,70,72,75,78,81,83.
E. Attitude toward Central Commerce	5,10,15,20,25,30,35,40,45,49.

* Since items 17 and 26 are common in Scale A and Scale B, each item appears only once in the Questionnaire. However, each is scored twice so as to keep the subscales intact.